SECTION C

INDEX TO VOLUME 22

Authors

Ayers, G. W.—Studies on the life history of the club root organism, Plasmodiophora Brassicae, 143.

Batho, H. F.—See Leach, W.

Birdsall, J. E. and Neatby, K. W.—Researches on drought resistance in spring wheat. III. Size and frequency of stomata in varieties of Triticum vulgare and other Triticum species, 38.

Boothroyd, E. R.—See Wilson, G. B.

Cherewick, W. J.—An improved method of determining the smut spore load on cereal seed, 120.

Studies on the biology of Erysiphe graminis DC., 52.

Gordon, W. L.—The occurrence of Fusarium species in Canada. I. Species of Fusarium isolated from samples of cereal seed in Manitoba, 282.

Grace, N. H.—Note on dispersing agents for gluten, 280.

Grimble, J. G.—See Sanford, G. B.

Groves, J. W. and Skolko, A. J.—Notes on seed-borne fungi.
I. Stemphylium, 190.
II. Alternaria, 217.

Hagborg, W. A. F.—See Johnson, T.

Hunter, G.—See Tuba, J.

Johnson, L. P. V.—Sugar production by white and yellow birches, 1.

Johnson, T.—See Newton, M.

Johnson, T. and Hagborg, W. A. F.—Melanism in wheat induced by high temperature and humidity, 7.

Katznelson, H.—Studies with Bacillus polymyxa.
I. Some factors affecting the fermentation of wheat by Bacillus polymyxa, 235.
II. Bacteriophage of Bacillus polymyxa in relation to the 2,3-butanediol fermentation, 241.

Katznelson, H. and Lochhead, A. G.—Studies with Bacillus polymyxa.
III. Nutritional requirements, 273.

Kennedy, L. L.—See Tuba, J.

Leach, W.—Studies on the metabolism of cereal grains. III. The influence of atmospheric humidity and mould infection on the carbon dioxide output of wheat, 150.

Leach, W., Moir, D. R., and Batho, H. F.—An improved arrangement for the measurement of carbon dioxide output of respiring plant material by the electrical conductivity method, 133.

Lochhead, A. G.—See Katznelson, H.

McCalla, D. G.—See Rose, D.

Moir, D. R.—See Leach, W.

Moss, E. H.—The prairie and associated vegetation of southwestern Alberta, 11.

Neatby, K. W.—See Birdsall, J. E.

Newton, M. and Johnson, T.—Physiologic specialization of oat stem rust in Canada, 201.

Payette, A. and Perrault, C.—Action de la thiamine sur le Phytophthora infestans (Mont.) de Bary, 127.

Perrault, C.—See Payette, A.

Peturson, B.—Adult plant resistance of some oat varieties to physiologic races of crown rust, 287.

Pomerleau, R.—Observations sur quelques maladies non parasitaires des arbres dans le Quebec, 171.

Rose, D. and McCalla, A. G.—Effects of limiting ions on the absorption of nutrients by wheat, 87.

Sanford, G. B. and Grimble, J. G.—Observations on phloem necrosis of potato tubers, 162.

Skolko, A. J.—A cultural and cytological investigation of a two-spored basidiomycete, Aleurodiscus canadensis n. sp., 251.

Skolko, A. J.—See Groves, J. W.

Truscott, J. H. L.—A storage rot of celery caused by Ansatospora macrospora (Osterw.) Newhall, 290.

Tuba, J., Hunter, G., and Kennedy, L. L.—On sources of vitamin C. II. Alberta native fruits, 33.

Wilson, G. B. and Boothroyd, E. R.—Temperature induced differential contraction in the somatic chromosomes of Trillium erectum L., 105.

SECTION C

INDEX TO VOLUME 22

Subjects

Acer saccharum, See Sugar maple.

Alberta
Native fruits of, as sources of vitamin C, 33.
Southwestern, The prairie and associated vegetation in, 11.

Aleurodiscus canadensis, See under Fungi.

Alternaria, See under Fungi.

Ansatospora microspora, See under Fungi.

Ascorbic acid, See Vitamin C.

Bacillus polymyxa, See under Fungi (Bacteria).

Bacteria, See under Fungi.

Bacteriophage of Bacillus polymyxa in relation to the butanediol fermentation of wheat, 241.

Barley, Fusarium species isolated from, in Manitoba, 282.

Basidiomycete, Two-spored, Aleurodiscus canadensis, A cultural and cytological investigation of, 251.

Betula
lutea, See Birch, Yellow.
papyrifera, See Birch, White.

Birch
See Trees.
White and yellow, Sugar production by, 1.

Butanediol fermentation of wheat
Bacteriophage of Bacillus polymyxa in relation to, 241.
Factors affecting, 235.

Calcium ions, Effect of limiting, on the absorption of nutrients by wheat, 87.

Carbon dioxide output
of respiring plant material, An improved arrangement for measurement of, by the electrical conductivity method, 133.
of wheat, Influence of atmospheric humidity and mould infection on, 150.

Celery, Storage rot of, 290.

Cereal grains, See Barley, Oats, Wheat.

Chromosomes
of Triticum species, Size and frequency of stomata in relation to, 38.
Somatic, of Trillium erectum, Differential contraction induced by temperature in, 105.

Climate in Southwestern Alberta, 14.

Club root organism, See Fungi (Plasmodiophora).

Cold, Effect of, on trees in Quebec, 173.

Conductivity, See Electrical conductivity method.

Coniferous vegetation of southwestern Alberta, 26.

Crown rust, See Rust.

Differential contraction in the somatic chromosomes of Trillium erectum, induced by temperature, 105.

Diseases
Non-parasitic, of trees in Quebec, 171.
See also Fungi.

Dispersing agents for gluten, Note on, 280.

Drought resistance in spring wheat, Size and frequency of stomata in Triticum species in relation to, 38.

Dryness, Effect of, on trees in Quebec, 180.

Electrical conductivity method of measuring carbon dioxide output of plant materials, An improved arrangement for, 133.

Erysiphe graminis, See under Fungi.

Fermentation of wheat by Bacillus polymyxa
Bacteriophage of B. polymyxa in relation to, 241.
Some factors affecting, 235.

Fructose, See Sugar.

Fruits, Native, of Alberta, as sources of vitamin C, 33.

Fumes, Noxious, Effect of, on trees in Quebec, 185.

Fungi
- Aleurodiscus canadensis, A cultural and cytological investigation of, 251.
- Alternaria species isolated from seeds, Descriptions of, 217.
- Ansatospora macrospora, Storage rot of celery caused by, 290.
- Bacteria
  - Bacillus polymyxa
    - Bacteriophage of, in relation to butanediol fermentation of wheat, 241.
    - Nutritional requirements of, 273.
    - Some factors affecting the fermentation of wheat by, 235.
- Erysiphe graminis, Studies of the biology of, 52.
- Fusarium species isolated from farm samples of cereal seed in Manitoba, 282.
- Mould infection, Influence of, on the carbon dioxide output of wheat, 150.
- Phycomyces Blakesleeanus, Test fungus used in determining the action of thiamin on Phytophthora, 128.
- Phytophthora infestans, Action of thiamin on, 127.
- Plasmodiophora Brassicae, Studies on the life history of, 143.
- Stemphylium species isolated from agricultural seeds, Description of, 190.

Fusarium, See under Fungi.

Gases, Noxious, Effect of, on trees in Quebec, 185.

Gluten, Note on dispersing agents for, 280.

Growth
- factor requirements of Bacillus polymyxa, 274.
- substances, See Plant hormone chemicals.

Heat, Effect of, on trees in Quebec, 179.

Hormones, See Plant hormone chemicals.

Humidity
- Atmospheric, Influence of, on the carbon dioxide output of wheat, 150.
- High, Melanism in wheat induced by, 7.

Inositol, Reaction of Phycomyces Blakesleeanus and Phytophthora infestans to, 130.

Invert sugar, See Sugar.

Ions, Limiting, Effect of, on the absorption of nutrients by wheat, 87.

Leaf roll of potatoes, Association of phloem necrosis of the tubers with, 162.

Life history
- of Ansatospora macrospora, 291.
- of Erysiphe graminis, 52.
- of Plasmodiophora Brassicae, 143.

Limiting ions, Effect of, on the absorption of nutrients by wheat, 87.

Magnesium ions, Effect of, on the absorption of nutrients by wheat, 87.

Manitoba, Fusarium species isolated from cereal seeds in, 282.

Measurement of carbon dioxide output of respiring plant material by the electrical conductivity method, An improved arrangement for, 133.

Melanism in wheat induced by high temperature and humidity, 7.

Metabolism of cereal grains, See Wheat, Carbon dioxide output of.

Micro-organisms, See Fungi.

Mildew, See Fungi (Erysiphe graminis).

Moisture, See Humidity.

Mould infection, Influence of, on the carbon dioxide output of wheat, 150.

Necrosis, Phloem, of potato tubers, 162.

Nitrogen
- ions, Effect of limiting, on the absorption of nutrients by wheat, 87.
- requirements of Bacillus polymyxa, 273.

Non-parasitic diseases of trees in Quebec, 171.

Nutrients, Effect of limiting ions on the absorption of, by wheat, 87.

Oat(s)
- Fusarium species isolated from, in Manitoba, 284.
- Stem rust of, in Canada, Physiologic specialization in, 201.
- Varieties of, Adult plant resistance of, to physiologic races of crown rust, 287.

Phloem necrosis of potato tubers, 162.

Phosphorus ions, Effect of limiting, on the absorption of nutrients by wheat, 87.

Phycomyces Blakesleeanus, See under Fungi.

Physiologic races of crown rust, Adult plant resistance of some oat varieties to, 287.

Physiologic specialization of oat stem rust in Canada, 201.

Phytophthora infestans, See under Fungi.

Picea canadensis, A cultural and cytological investigation of Aleurodiscus canadensis found on, 251.

Plant
- hormone chemicals, as dispersing agents for gluten, 280.
- materials, Respiring, See Carbon dioxide output of.

Plasmodiophora Brassicae, See under Fungi.

Poplar vegetation in southwestern Alberta, 23.

Populus, See Poplar.

Potassium ions, Effect of limiting, on the absorption of nutrients by wheat, 87.

Potato tubers, Phloem necrosis of, 162.

Powdery mildew, See Fungi (Erysiphe graminis).

Prairie and associated vegetation of southwestern Alberta, 11.

Puccinia
- coronata var. Avenae, See Rust, Crown.
- graminis Avenae, See Rust, Oat stem.

Pyrimidine, Reaction of Phycomyces Blakesleeanus and Phytophthora infestans to, 130.

Quebec, Some non-parasitic diseases of trees in, 171.

Resistance
- of some oat varieties to physiologic races of crown rust, 287.
- to drought in spring wheat, Size and frequency of stomata in Triticum species in relation to, 38.

Respiration, See Carbon dioxide output.

Rot, Storage, of celery, 290.

Rust
- Crown, Plant resistance of some oat varieties to physiologic races of, 287.
- Oat stem, in Canada, Physiologic specialization in, 201.

Sap, Sugar found in
- of sugar maple, 1.
- of white birch, 1.
- of yellow birch, 1.

Seeds
- Alternaria species isolated from, Descriptions of, 217.
- Cereal
  - Fusarium species isolated from farm samples of, in Manitoba, 282.
  - Smut spore load on, An improved method for determining, 120.
- Stemphylium species isolated from, Descriptions of, 190.

Smut spore load on cereal seed, An improved method for determining, 120.

Soil(s)
- of Quebec, Poor, Effect of, on trees, 184.
- of southwestern Alberta, 13.

Solanum tuberosum, See Potato.

Spore load, Smut, on cereal seed, An improved method of determining, 120.

Spring wheat, See Wheat.

Stemphylium, See under Fungi.

Stem rust of oats, Physiologic specialization in, 201.

Stomata, Size and frequency of, in Triticum species, in relation to drought resistance in spring wheat, 38.

Storage rot of celery, 290.

Sucrose, See Sugar.

Sugar maple, Sugar production by, 1.

Sugar production
- by sugar maple, 1.
- by white birch, 1.
- by yellow birch, 1.

Sulphur ions, Effect of limiting, on the absorption of nutrients by wheat, 87.

Survey methods used in study of the vegetation of southwestern Alberta, 15.

Temperature
- Differential contraction induced by, in the somatic chromosomes of Trillium erectum, 105.
- High, Melanism in wheat induced by, 7.
- See Heat.

Thiamin
Action of, on Phytophthora infestans, 127.
Reaction of Phycomyces Blakesleeanus to, 130.

Thiazole, Reaction of Phycomyces Blakesleeanus and Phytophthora infestans to, 130.

Topography of southwestern Alberta, 13.

Trees
in Quebec, Some non-parasitic diseases of, 171.
Sugar production from some, 1.

Trillium erectum, Differential contraction in the somatic chromosomes of, induced by temperature, 105.

Triticum vulgare, See Wheat.

Tubers, Potato, Phloem necrosis of, 162.

Vegetation of southwestern Alberta
Coniferous, 26.
Poplar, 23.
Prairie, 15.

Virus, Leaf roll, of potatoes, Association of phloem necrosis of the tubers with, 162.

Vitamin C, Alberta native fruits as sources of, 33.

Water, Excess, Effect of, on trees in Quebec, 184.

Wheat
Carbon dioxide output of, as affected by atmospheric humidity and mould infection, 150.

Wheat—*concluded*
Common, Fusarium species isolated from, in Manitoba, 284.
Durum, Fusarium species isolated from, in Manitoba, 284.
Effect of limiting ions on the absorption of nutrients by, 87.
Fermentation of, by Bacillus polymyxa
Bacteriophage of B. polymyxa in relation to, 241.
Some factors affecting, 235.
Gluten of, Dispersing agents for, 282.
Protein content of, Relation between stomatal characteristics and, 49.
species, Size and frequency of stomata in, 44.
Spring, Size and frequency of stomata in Triticum species in relation to drought resistance in, 38.
Stomata of
Relation between length and frequency of, 47.
Relation between yield and protein content of grain and, 48, 49.
Varieties, Size and frequency of stomata in, 40.
Yield, Relation between stomatal characteristics and, 48.
Melanism in, induced by high temperature and humidity, 7.

White birch, Sugar production by, 1.

Yeast extract, Reaction of Phycomyces Blakesleeanus and Phytophthora infestans to, 131.

Yellow birch, Sugar production by, 1.